

ABSTRACT OF THE DISCLOSURE

Adaptive grating lobe suppression is provided. Received ultrasound data is measured, compared or otherwise processed to determine the presence of grating lobe energy. A further process is then altered as a function of the level of grating lobe energy. In one embodiment, the adaptive grating lobe suppression is implemented in the receive beamformer. Data representing a virtual element is formed as a normalized sum of data from adjacent sparse elements. The data from the adjacent elements is correlated to determine the presence of grating lobe energy as a function of the amount of shift associated with the peak correlation. A phase shift is applied to the data representing the virtual element where sufficient grating lobe energy is determined. In another embodiment, an amount of grating lobe energy is measured by comparing data from prior to a filter with filtered data. The filter is selected to isolate main lobe energy from grating lobe energy. A gain is modulated as a function of any detected grating lobe energy or filtered or unfiltered data is selected for further processing.